

REMARKS

Claims 7, 9 and 10 are all the claims pending in the application.

Claim rejections – 35 U.S.C. § 103

In the present Final Office Action, the Examiner has maintained the rejections of claims 7, and 9-10 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Junjie in view of Hoang. The Examiner has also maintained the rejection of claim 8 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Junjie in view of Hoang, in further view of Kataja.

In Applicant's February 6, 2006 Response, Applicant argued that one having skill in the art would not have been motivated to combine the Junjie and Hoang references because 1) Junjie and Hoang are directed to two different arrangements of bobbins on a circuit board and 2) that the proposed combination would result in a thicker bobbin/board combination. However, in the present Final Office Action, the Examiner contends that although the bobbin arrangements are different, the terminal pins on flanges of the bobbin are the same. Also, the Examiner contends that the resulting combination would result in a thinner bobbin/board combination. Applicant respectfully disagrees with the Examiner's position.

Junjie is directed at a transformer bobbin assembly which includes two coil windings – a primary coil winding and a secondary coil winding – which are separately wound on the bobbin. This arrangement of separately wound coils requires an assembly process which is very labor intensive and complicated because multiple layers of insulation tape must be used to keep the primary and secondary coil windings insulated from one another, and the various leads insulated from each other. (see paragraph 3). Junjie thus proposes an assembly which includes a

transformer bobbin having multiple step pin rows. (see paragraphs 5, 24). The multiple pin rows remove the necessity of using some of the layers of insulation tape.

By contrast, Hoang is directed to a method of joining a bobbin and lead-out terminal in a small transformer. Conventional methods of fixing a lead-out terminal involve molding. In such molding, the terminals must first be formed into a desired shape, then placed into an injection molding cavity, wherein the terminal is implanted into the bobbin by injection molding. Thus, different molds are required for each different configuration. Hoang thus proposes a method using a manifold which has a series of wire slots and insertion holes aligned in an orderly manner. (see, e.g., Figs. 4 & 5). The manifold allows terminals to be both connected to wiring of the bobbin and formed to a desired shape. Hoang only shows a bobbin placed with the axis of the bobbin parallel to a printed circuit board.

In light of these teachings, Applicant respectfully submits that one skilled in the art would not have been motivated to combine the Junjie and Hoang references. First, the goal of Junjie is to simplify the assembly of the bobbin so that multiple insulation wirings are no longer necessary in a transformer which has both primary and secondary coil windings. Thus, one having skill in the art would not have looked to the method of joining a bobbin and lead-out terminal proposed by Hoang, because Hoang offers no teachings on simplifying the assembly of the bobbin windings. Instead, Hoang merely uses a conventional bobbin and focuses instead on terminals and a molded manifold.

Second, changing the vertical arrangement of the bobbin in Junjie to the horizontal arrangement of Hoang would impermissibly change the principle of operation of the bobbin.

The transformer of Junjie includes primary and secondary coil windings which are wound in the same direction and have leads exiting at the same side of the bobbin. Changing to the horizontal arrangement of Hoang, i.e. an arrangement having leads on both ends of the bobbin, would result in a substantial modification to the assembly of the bobbin of Junjie because the primary and secondary coil windings would need to be wound differently in order to place the leads at different ends of the bobbin. This would actually increase the complexity of assembly (something that Junjie is attempting to simplify).

Third, a key feature of Junjie is the multiple step rows, which allow the removal of some of the insulation tapes (and a resulting simplification of manufacturing). Using the prefabricated manifold of Hoang would frustrate the multiple step arrangement of Junjie. Moreover, adding the multi step rows of Junjie to the manifold of Hoang would produce an unworkable manifold because there would not be enough room on the manifold for the wire slots and insertion holes of the manifold, both of which are necessary features of Hoang.

Fourth, Applicant respectfully notes that the manifold of Hoang shown in Figs. 4 & 5 has a particular arrangement in that insertion holes 22 are provided in the bottom of the manifold. Wire slots 21 open along a direction parallel to the printed circuit board. Lead out wire stabs 5 thereby protrude from wire slots 21 along printed circuit board, and terminals are inserted through insertion holes 22 and are further manipulated (see, for example, Fig. 9) to secure the manifold to the board. Thus, using the Hoang manifold with the vertical bobbin of Junjie would frustrate the placement of insertion holes 22 and wire slots 21, or at least require a substantial rework of their placement.


Thus, for these reasons, one skilled in the art would not be motivated to combine the teachings of the Junjie and Hoang references. Therefore, since neither Junjie nor Hoang standing alone teach, suggest, or otherwise disclose each feature of claims 7, and 9-10, claims 7 and 9-10 are patentable.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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